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FILED IN PATENT OFFICE

Device for a portable container

The present invention relates to an arrangement for  
5 a portable bucket or some other similar container which  
includes a carrying handle.

Previously disclosed is the design of containers  
intended for various purposes with a triangular peripheral  
form. Previously disclosed, for example, is a container  
10. intended for use in kitchens for serving drinks, which  
comprises a handle extending along one side of the container  
for its entire height. The advantage of this is that a long  
pouring pipe is obtained and also a long handle, which can be  
gripped with two hands if desired.

15 Also previously disclosed through US, A, 5,062,542  
is a triangular peripheral form for sealable containers with  
a view to being able to stack them together in a limited  
area. The peripheral form in this case is equilateral, with  
three sides arranged relative to one another at a relative  
20 angle of 60°. If they are placed on a load pallet, for  
example, the entire surface of the pallet is not covered due  
to the absence of packaging, at least at the corners of the  
load pallet. This previously disclosed container lacks a  
carrying handle.

25 Also previously disclosed is the design of buckets  
with either oval or rhomboid form, in conjunction with which  
the carrying handle is positioned at the two corners or sides  
of the bucket which are situated furthest away from one  
another. The handle in this case is situated so that it  
30 extends over the centre of the bucket with the same distance  
to the sides of the bucket. Although the width of the bucket  
has been reduced, it is still quite wide and it can be  
difficult to carry, especially for persons who are not so  
tall and who do not have long, ape-like arms.

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The principal object of the present invention is thus, in the first instance, to make available an arrangement which solves the aforementioned problems associated with carrying and stacking the containers in question simply and effectively.

The aforementioned objects are achieved by means of an arrangement in accordance with the present invention, which is characterized essentially in that the bucket exhibits triangular cross-sectional form, in that the angle between the two shortest sides of the bucket is essentially a right angle, and in that the handle is arranged in such a way that the effective carrying point for the bucket is situated in a vertical plane located at a point ca. 1/3 across the width of the bucket between the longest side of the bucket and the right angle closest to the aforementioned longest side of the bucket.

The invention is described below as a number of preferred illustrative embodiments, in conjunction with which reference is made to the accompanying drawings, in which:

Fig. 1 shows the invention in its effective carrying position by a person;

Fig. 2 shows an embodiment of a carrying handle with the handle respectively in the illustrated carrying position and in the rest position;

Fig. 3 shows the principle for positioning the carrying handle;

Fig. 4 shows the loading plan for buckets on a European load pallet;

Figs. 5-5C show a bucket with a curved handle and in different views and positions;

Figs. 6-6B show a bucket with a handle adapted to fit the bucket and in different positions;

Figs. 7-14A show different types of carrying handle for a bucket or some other container viewed from the side and from above;

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Fig. 15 shows an embodiment of a container with a lid and in the form of a triangular cardboard pack with an extended handle;

Figs. 15A-15C show this pack in the form of an exploded diagram and a side view and a top view;

Fig. 16 shows the act of carrying a previously disclosed bucket and a bucket in accordance with the invention;

Fig. 17 shows plan views of a load on a load pallet for a previous solution and a new solution of a bucket on a standard load pallet;

Fig. 17A shows a side view of loaded pallets with round buckets and triangular buckets in accordance with the invention;

Fig. 18 shows a cross-sectional view of a triangular bucket in accordance with the invention;

Fig. 19 shows a suspended triangular bucket; and

Figs. 20 and 21 show the modular construction of the system.

An arrangement 1 for a portable bucket 2 of the kind shown, for example, in Figs. 5-5C in the form of an open bucket, but which can also be provided with a removable lid of some previously disclosed kind, or some similar container 2<sup>1</sup>, which is permanently covered by a fixed upper part 3 and may exhibit a closeable opening 4 with a screw stopper 5, for example as shown in Figs. 14-14A, and which comprises a carrying handle 6, 6<sup>1</sup>, has the following subsidiary characteristics:

The bucket 2 or the container 2<sup>1</sup> exhibits triangular cross-sectional form. The angle X between the two shortest sides 7, 8; 7<sup>1</sup>, 8<sup>1</sup> of the bucket is essentially a right angle. The handle 6, 6<sup>1</sup> is arranged in such a way that the effective carrying point 9 for the bucket 2 or the container 2<sup>1</sup> is situated in a vertical plane 10 located at a point ca. 1/3 across the width B of the bucket 2 or the

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container between the longest side 11; 11<sup>1</sup> of the bucket 2 or the container and the right angle X closest to the aforementioned longest side 11, 11<sup>1</sup> of the bucket 2 or container 2<sup>1</sup>.

5           The aforementioned positioning of the carrying handle 6 means that the bucket 2, unlike previously disclosed buckets with traditional carrying handles, is much easier to carry because it also provides clearance 14 for the leg 15 of the person 16 who is carrying the bucket 2 situated closest  
10 to the bucket.

Dotted lines are used in Fig. 1 to show the carrying of a previously disclosed bucket, although in a lowered position, from which it can be seen how the leg 15 risks striking the bucket 102 at each step. In the case of  
15 the bucket 2 in accordance with the invention, the carrying arm 17 passes vertically downwards from the shoulder 18 to the carrying handle 6, which is not the case for a previously disclosed bucket 102, where the handle 106 is located further out from the body.

20           As shown in Figs. 2, 5, 6, 9 and 11, the handle 6 in this case is pivotally mounted about pivot bearings 12 situated on the shortest sides 7, 8 of the bucket in the aforementioned vertical plane 10 either on the side of the bucket 2, inside the bucket and below or above the upper  
25 peripheral edge 13 of the bucket.

The handle 6 in this case can be supported in such a way that it is capable of being swung down over the upper edge 13 of the bucket on the outside 2A of the bucket.

30           For example, the shape of the handle 6 is adapted to the peripheral form of the bucket 2 along a section of it and, for example as shown in Figs. 6 and 11A, so as to be swung outside the bucket 2 or to be swung in such a way as to come to rest on a lid 19 between the pivot bearings 12.

35           Fig. 9 shows an example of a handle 6, in which this exhibits double-articulated 12, 20 vertical legs 21.

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A number of examples show handles  $6^2$ ,  $6^3$ , which are capable of detachable installation on the bucket 2 in Fig. 7 and Fig. 8 respectively, and whose legs 23 are so arranged as to be capable of being lowered inside or outside the essentially vertical sides 7, 8 of the bucket, or of being attached around the upper, lipped peripheral edge 13 of the bucket by means of attachment devices 22 which engage with the peripheral edge 13.

Figs. 10, 10A show an example of a handle  $6^4$ , which is supported on at least one mounting point 24 on the longest side of the bucket, so that the carrying point 9 for the bucket 2 is situated in the aforementioned vertical plane 10 at the indicated distance  $1/3 B$  from the longest side 11 of the bucket, viewed around the periphery of the bucket.

Two examples of offset handles  $6^4$  are shown in conjunction with this.

Figs. 13, 13A show examples of a handle  $6^5$ , which is in the form of an angled upright, which, when in its inward-pivoted position I, permits carrying of the bucket 2 in accordance with the above with the actual gripping part 25 of the handle  $6^5$  situated at the carrying point 9 of the bucket. The handle  $6^5$  can be swung out to an extended position II, in which it is out of the way and helps when pouring the contents from the bucket 2.

The buckets 2 shown here have their two short sides 7, 8 arranged with identical lengths  $L$  viewed around the periphery of the bucket, i.e. each of the angles  $C$ ,  $D$  between the sides is ca.  $45^\circ$ . The two short sides may vary in their relative length, however.

The sides 7, 8, 11 of the bucket 2 are essentially flat and are preferably inclined slightly outwards from the bottom 26 of the bucket. The aforementioned bucket 2, which may be referred to in general terms as a vessel, is stackable both when empty and with a lid. Fig. 4 shows how the entire surface 27 of a load pallet 28 is filled effectively without

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spaces thanks to the fact that the sides 7, 8, 11 of the buckets 2 extend along the peripheral edge 29 of the pallet and to another side 7, 8, 11 of an adjacent bucket 2. When stacking vessels on shelves in stores and/or on display

5 shelves for sale, a corresponding amount of space can also be saved if they can be hung along a wall. There is no

~~restriction on the material used in the~~

buckets/vessels/containers, although a suitable material is a plastic or metallic material, and it is also possible to use

10 a fibrous material such as cardboard. The container 2<sup>1</sup> shown in Fig. 15 is made from fibrous material, more specifically from corrugated board or some other strong board material such as cardboard. This variant of a container 2<sup>1</sup> is formed

15 from three parts, more specifically a bottom part 30, a middle part 31 and a lid part 32. The aforementioned parts 30-32 are so arranged as to be attached together to form a stable container 2<sup>1</sup>. The bottom part 30 consists of a trough 30A with lateral flaps 33 folded upwards, and the lid part 32 consists of a flat trough 32A with corresponding lateral

20 flaps 34 folded downwards. The lateral flaps 32, 34 are joined together at their corners 35 and 36, for example by gluing. The lid part 32 has a carrying handle 6<sup>6</sup>, preferably executed in a punched-out form and situated so that, when it is folded out as shown in Fig. 15B, it is in a position such

25 that the effective carrying point 9 for the container 2<sup>1</sup> is situated in a vertical plane 10, which is also located at a point ca. 1/3 of the way across the width B of the container between the longest side 11<sup>6</sup> of the container 2<sup>1</sup> and the right angle x between the shorter sides 7<sup>6</sup>, 8<sup>6</sup> of the

30 container closest to the aforementioned longest side 11<sup>6</sup>, in a similar fashion to that described above. Carrying the container 2<sup>1</sup> with the handle 6<sup>6</sup> raised in this way is also comfortable, because the centre of gravity Tp of the container is situated so as to coincide with the

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aforementioned vertical plane 10 at the indicated distance from the respective corners of the sides.

The middle part 31 of the pack 2<sup>1</sup> can be in the form of a folded piece of cardboard glued together along a joining part 37.

The handle 6<sup>6</sup> can be in the form of one or two punched-out handle components 6<sup>6</sup> A, B which are folded up from the lid part 32 to form a common handle 6<sup>6</sup>.

Fig. 16 shows the difference between carrying a conventional bucket and a bucket in accordance with the invention, in which the carrying handle is displaced laterally towards the person who is carrying the bucket. Depending on the design of the bucket with regard to its corners and its rounding, the effective position of the carrying handle is such that it is situated at a distance of ca. 33-40% from one of its sides, i.e. the side facing towards the person who is carrying the bucket.

The triangular design of a bucket with a carrying handle thus provides the following advantages, among others:

- 20 ☐ Better storage and load efficiency compared with a round bucket.
- ☐ Better ergonomics with regard to carrying by the handle.
- ☐ A large, unobstructed external surface of the bucket
- 25 ☐ that is suitable for a label, for example.
- ☐ The modular system permits more efficient loading and storage.
- ☐ Suitable for hanging from a wall 51 or a ladder, as shown in Fig. 19.
- 30 ☐ The internal flat surface 11A of the bucket is adapted for a roller.
- ☐ Easy to empty.
- ☐ An unobstructed surface always faces the person who is carrying the bucket.



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Fig. 18 shows a bucket in which the side 11 of the bucket 2 intended to face towards the person who is carrying the bucket 2 is illustrated together with the internal flat surface 11A suitable for a roller to work against. It also shows how the corners 50 of the bucket 2 are executed with large radii, among other things to facilitate pouring the contents from the bucket 2.

As far as the consumption of materials for previously disclosed buckets and the object of invention are concerned, it is true that the triangular form increases the consumption of material by ca. 20% compared with round buckets, although on the other hand material wastage of ca. 20% is obtained when stamping round lids and bottoms. The triangular form of the bucket thus does not represent any real increase in material consumption.

Figs. 17 and 17A show differences between the load capacity of previous round buckets 2<sup>1</sup> and triangular buckets 2 with a carrying handle in accordance with the invention. A round bucket 2<sup>1</sup> with a capacity of 20 litres can be loaded with 11 per layer in two layers on a standard load pallet 28, whereas a triangular bucket 2 with a capacity of 20 litres can be loaded with 12 per layer in three layers. This provides respective load capacities of 440 and 720 litres per pallet; i.e. it is now possible to transport 63% more paint or other contents with a triangular bucket 2 compared with a round bucket 2<sup>1</sup> of the same volume.

Finally, Figs. 20 and 1 illustrate the modular concept of the system in clear text.

The invention, which gives the advantages and technical effects described and illustrated above, is not restricted to the described and illustrated embodiment, however, but may be varied within the scope of the Patent Claims without departing from the idea of invention.